Pocket Notebook
PN 20-10-15 (1920-1921)

This notebook dates from October 1920 - January 1921. The pocket notebook contains notes by Thomas A. Edison relating to experiments with chemicals, phonograph record molds, primary batteries, solvents, master wax molds and plating.

1250
1200
2500000
1250000~~00~~
1500000
13450
1350
1635

450
300
1350000

1500)16350(10.90
1500
13500
13500

5

15 12

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PN-20-10-15
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☆2996

~~Oct 15/20~~

~~Ott will be ready brakeman varnishing with rubbed Gilsonite dope 23rd Monday~~

~~Oct 16/20 JVM has~~
~~1 Wood Tank 3' × 4' dia Lead Lined~~
~~2 Tanks 5' deep 4' dia Lined - 1 4' deep 5' dia Lead lined this one is in bldg where we will use $CuSO_4$ regenerating~~
~~1 Tank 5' deep 4' dia plain wood~~
~~1 4' deep 5' dia Copper lined~~
~~all above Wooden Tanks~~

~~Bradshaw is now Inspector in Blank Dept 45 week~~

~~Look for place dore Anode Cu for Kasakov~~

~~Get Gallo Salary & Reduce it to what it was before he took half of Dess~~

Prime Cuban asphalt is made flexible when solid & soft Celluloid like. It will work ok with China Clay & when dissolved Benzol in 2 pts HS + 5 oz & put together Heated 15 hours hot plate

What was left in beaker was thin & poured it out watch glass few min solid

think will stand lot clean clay & still can be dipped several times to form a cylinder —

Saw ~~chalk~~ plaster Paris on small winch 8" wheel for Sanborn ⑤ men on it. 5

~~Wooden Casing & sash in 22A put in — cover glass 5 ! —~~

~~Saw load lumber going out from Lakeside down baths — sold — who sold it — stop it — Teed sold $13 load~~

WE lost $3000 in Aug on Ediphone
Records - made nothing on
Ediphones - Work up cheaper record

Put a Crock Lead lined
on hot plate filled
with our regular plating
Sol $CuSO_4$ + 2½% H_2SO_4
see how it acts
hot over long period

bend up
single sheet

Make up A 4 asbestos seperator
paper Edge double asbestos
wound around band or
wire bottom use rubber
Set on - if possible take
up band outside of whole
cell - no pins set up
2 on hot test + 2
Reg for check -

~~Hurry little Audio Cell.~~
~~on test, if OK Make Model~~
~~using present tools try use~~
~~Scrap stock for every part~~
~~possible~~

~~Get some Electrolysers graphite~~
~~+ moist the $Cu(OH)_2$ MgO~~
~~Combination & grind together~~
~~Make a pocket or 2 & test~~
~~for voltage -~~ OK wks OK

~~Smith to try by stages~~
~~the least $MgSO_4$ that~~
~~will just show darkening~~
~~+ no darkening -~~
~~Midway will be the~~
~~right proportions~~

Buchanan ordered from Luhr the bushings - we are in great hurry

Mike Costa lets bag dry stop it

Miller - Chemist in Constable place anyhdric ng

At night floors washed tables cleaned - & some tables new. Sheet iron surface & all points taken away

foreman Black Dept
day Robert Spahle
night. Wm Linsig -

Paul Field Brooklyn - put in - ok. comes on 25th -

There is at SB 210 A6 Cells 2nds - awaiting our order that was got ready for Stand by Battery in Disc Dept,

McCaffaro	75.38	Millwright-Hoffman Repair gang
J Principia	73 23	
J Brown	73 02	
C Richards	70 79	
G Brown	64 65	
J Murray	62 55	
D Mind	61 91	
J Jernor	59 40	
J Rosa	56 53	

Asked P & Hoff to stop this overtime

Moors -
About grinding platens

About bevelling Machine -

24 presses on 4th
48 on 2nd -

~~Ask Hoffman for those daily reports~~

Why can we have trucks on Blank presses to put moulds in at once instead of lifting each in -

List of articles in all the plants non routine material for which an inventory should be taken for a general Stock dept (re) Clearing House

Bolts + Nuts
Pipe + fittings Metallic
Earthenware pipes + fittings
Belting + fittings
Washers -
Drums - Containers
Sheet metal rods
Rubber pipe + rubber articles
+ Hard rubber scrap
Crushing Machinery
Sieving Machinery
Tanks | wood + wood lead lined - Steel tanks plain + lead lined - steam Jacketed Tanks, Porcelain lined tanks

Lead pipe, sheet lead

~~Alltogether there are 30
people Repairing Wkg M
1st Jans + 2nd M & Wkg
females of which
19 are 1st class
11 2nd class —~~

~~Ordered ½ laid off
This will let of
15 men — 11 2nd + 4 } (pt.)
of 1st class men
Oct 20 1920~~

~~Order that the 2nd
Class Repair men on
working M be laid off
Mathews } & Badell —~~

~~Take up with Muller & Haun
use of 25% Caustic
"N" — ¼ Cleaner~~

~~Get night Inspector for
Blank Dept,~~

Also night inspector for
#24 nights =

2 Furnature Inspectors
1 I have —

~~Is platens such that
the Shrinker screens on
blanks will work
on seconds & fit truck~~

~~Yes Most~~

Why are not blank
trucks same as
Record trucks
put in by hand now

Look at Film Vault – Mr Thompson
they want it –

~~Have Daily report
of Moulds rejected
from the presses –~~

Follow up carrying boxes Moore
making
ditto Washing Machine for Sanborn
Reaming Machine –
Bevel Gear direct connection to belt
~~Benny first new Table in 22B for MCM~~
~~New tables Warners Diamond placing
Etc lower in SB~~

~~Otto [illegible] Varnishing Machine
unit + man taught –
Complete new shipping room~~
Automatic feed to + from & transfer
between the 2 beveling
Machines

~~Alcohol piping in blank
building~~

Haucks 22½ hour schedule

Show Hauck new plan +
see Paullin + start it going

~~Speak Hauck about character
of old stock of moulds +
arrange how to handle~~

Hauck to have place over
22A with his 2 clerks

Get Jerry 2 doz good
Barrels for storing Cu +
N. Sulfates ready for shipping

~~Moore to put full size brush on polishing Machines + Extra 1/2 brush for Label.~~

Monday put the Guarantee Trust Co Man as inspector in Cabinet room Shake + have him introduced to foreman there as learner, Daily Report to me -

~~Get 2 men for Neil & Caldwell to learn just what they are doing — after taught put in booths up stairs to clean up old Moulds~~

~~Neil & Caldwell test new booth up stairs~~

~~Try Experiment of laying a mould on no ring mould + a no ring on top of blank + paint see if works.~~ Dally

If this dont work try only put 4 screws in.

Design an automatic Machine to screw all screws in except 1st 3

~~Ask Moore how the 50 Cast iron Moulds getting on.~~

Dally to feed moulds for blank from a stack otherwise wouldnt be full automatic

Follow up Galls auto cleaning + waxing-

Draw out 10ft Extension of big horn + dig out for Extension

Werner try Expmts on tracking
+ surface noise with sensitive
Recorder – Track ~~so~~ light +
heavy on loud piano +
have quiet or rest periods
like our last tracked
blank –

Put in 4th Dynamo in
22 B, + split them
2 on Ni 2 on Copper

~~Rasacoor to work up~~
~~shat making so he is~~
~~sure it functions~~

~~Rasacoor to set up~~
~~5 baths with Copper~~
~~shat + 5 Resistences~~
~~to keep them at 15 @ 16~~
~~amp –~~

~~Go down to Silver Lake~~
~~with Park + see Man~~
~~left in charge + talk~~
~~things over~~

~~Arrange place + tanks~~
~~for regenerating Discards~~
~~Matrices –~~

~~Start Seattle Chinaman~~
~~on the Rubber dope clay~~
~~Celluloid Scheme~~

~~see if Camphor will dissolve~~
~~in 10 + 5 % Acetone in~~
~~water or alcohol in~~
~~water for softening~~
~~Celluloid –~~

~~Go into the trucking costs~~
~~+ bad trucks pay rolls~~
~~for Disc dept.~~

~~Meadowcroft Keep Schmidts~~
~~time, He is to work a~~
~~week for $40.-~~

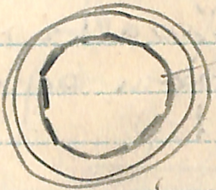
~~Tell Maxwell confidentially~~
~~about poor Slickway & selling~~
~~on reputation -~~

Get a better wiping cloth
or method - Think a brush
will be better & stop
Cloths, if ZnCl must be
used try Linen, but
revolving brush may be
OK - Put somebody on
this,

~~Arrange with Warner~~
~~& his Man to change his~~
~~polishing & rounding~~
~~Machine to get it just~~
~~right so we can make~~
~~25 more right off.~~

~~See about Maple filler~~
~~bags Master Guth -~~
~~it was ordered some~~
~~time ago -~~

~~See Simpson if any his~~
~~men got a unit I can~~
~~build -~~



~~Flake plating~~

~~Maple cylinder~~
~~holes & cloth~~
~~outside, filled what,~~

~~Start Little Cell where~~
~~O'Dair left off get one he had made~~
~~Fred~~ ~~Jimmy Burns~~

~~Work out the X4 in A6~~
~~Can of which I have model~~
~~have plans in pocket.~~

~~Test $Cu(OH)_2$ Mg green~~
~~with grafite & put in iron~~
~~pocket to get Voltage~~

~~See what Cox work on~~
~~hand & see if I can finish~~
~~it & if OK shut it down~~
~~& keep one man for test~~
~~Smiths stuff etc.~~

~~Get the Magnetic~~
~~Separator for Miller~~
~~to separate rings —~~
~~So he can use all the returned~~
~~Ni & keep from buying~~
~~New Nickel —~~

Weaton says

Flake Cranes average
on 3 4 & 5th floor
554 551 465 average
KW —
if true its 35c per cell for
Current alone at 2c KW hour

~~Be sure go down to Salvage~~
~~with Park — see Peter Clark~~
~~Man in chge & let him have~~
~~2 men & start arranging &~~
~~Collecting & cleaning up —~~

~~Refer to Rf out repair men~~
~~list in pocket & lay off~~
~~as marked~~

~~Paulin was loaned~~
~~my Payroll & rate of~~
~~Disc see that its~~
~~returned —~~

~~Get present payroll~~
~~men — what do rate~~
~~& what earned at rate~~
~~& piece work & start~~
~~a book & enter Copy~~
~~Each week — so can~~
~~see it grow less —~~

~~Watch the 40 + 100 amp~~
~~Ni-Moulds now working~~
~~test each point -~~

Put Inspector in
Nicolai's Dept. .

Also E Chemical works
+ McChesney + my
Salvage + balance
Days -
One for all -

~~Note over 200 daily press~~
~~ok by press dept -~~
~~80 @ 90 removed from~~
~~press Neill + C dont~~
~~get 100 each -~~
~~see if moulds at press~~
~~as passed from prints~~
~~or Eye + all about it~~

Latest - Inspectors wanted

Night in Blank Dept
day + night @ 24 - genl
Two learners with N + C
2 furniture Insptrs - 1
1 day for McC [illegible]
1 Nikolai
2 for Fagan

~~9~~ -
11

~~Start something on~~
~~the Diamond pitcher~~
~~also about finishing~~
~~up all the internal~~
~~laps that required~~

~~Follow up Cunningham~~
~~on annealing plated~~
~~stock at lower temp~~
~~+ get samples to test~~
~~He has been told what~~
~~is wanted -~~

Elvira Leveroni fine voice why dont we use her more -

We might stick Label on mould by special low MP solder

~~Dont forget the Palmdale Alumina Expts~~

Find out if the 2 lines from power house have their switches put together & not on 2 floors

Cost Records July 1928

Labor, Materials Supplies etc	54.93
add 15% returns	65 36
Add Tax	68 37
Add Cost selling	82 28
Add Moulds Latent, repairs } Packing	90 28
Receive	69 53
Loss 21.82 cents	

Doubling the output of Disc from $50,000 to 1 Million Month saves only about 4 cents

see previous book for stripping cycles & timing

~~Investigate Intertrucking & how to save men -~~

Ditter dont drop the Cu K cy solution - Keep at it,

~~Should select in Ballin Co building place for Genl store room for non running material smaller staff — high rack & close a concentrated store~~

~~Caldwell & Neil last quest of booths upstairs see Buchanan~~

tell
Moore, WE use 1000 V +
300 Rounds belts month -
find price - + why so many
when they can be patched

Why 1500 Edging Arbors
a Month - 1000 nuts

Why 11000 Cardboard per month
15000 Envelopes protect records

3000 dustible fillers for
Muzzles - [illegible]

Why 2500 Mould locks
month

1000 Centering pins - mould
10000 Mould holder screws
7000 Rubber rings on Mould
lugs plating baths

1300 lbs wiping rags

500 lbs solder ½ + ½
500 Studs, bath pumps

25000 Copper washers
Shimming up bushings in Moulds

[illegible]

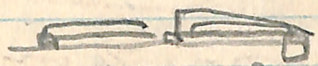
~~6 Loads, 2 Horse truck daily 2 men - Throw dust out in Open - stop it & use all can & burn balance~~

~~Design scheme of crushing the ROH in big drums -~~

~~McChesney's Bldg Co ground in Hardware Mill & saved -~~

Scheme - Contract out Screw Mach wk etc, S Bat & other things where practicable

Hangs Outside Chamber keep your best & make another - with smallest leak



only small hole

~~Put Park in Disc to Investigate why so much stuff wasted +~~

~~See Dyckman about small lot purchasing for Disc by yearly wants & get discounts to buy wholesale & take retail~~

~~Send Neely & C reports of saved old Mould to Branch, also arrange for daily Reports from Branch~~

~~Constable = project by light~~
~~your gears on screen to~~
~~gauge them stop noise~~

~~Follow up Miller see~~
~~he uses 20 soda in~~
~~Tank Cars —~~

~~Work up Clearing~~
~~House idea~~

~~Clark at Salvage~~
~~Keep Blotter of~~
~~Enter Each thing &~~
~~where it was sent~~

~~Ask Medcraft if he~~
~~got the data for~~
~~Liebman — also~~
~~if Hang asked for~~
~~any~~

See if we can burn
discards in Lab boiler
to heat, or in phono
works Moran boiler

By Products from McChesney
Dept

Sample One
Copper floor sweepings
500 lbs made per month

Moisture	none
Fines	2350 grms
Shot	90 "
Total weight	2440 "
CuO	69.54 %
HNO_3 sol Cu Metal	17 36 %
Total Copper	72.94
Zinc	2.05
Fe	1.38
Acid insoluble	10.83

Sand, Coal dust, pieces wood Etc

Sample 2 McChesney
Scrap from Primary Bat
Copper floor sweeping
presumeably low grade
700 lbs made per month

Moisture	none
Fines	1840 grms
Shot	180 "
tot	2020
CuO	71.66 %
HNO_3 Sol Cu	32.91
Total Cu	90.16 %
Zinc	0.99
Fe	1.11
Acid insol—	0.39

The Labels on No 1 & 2 were probably exchanged

Doughlery is assay the other 5 samples —

get them —

~~Get the 3 sets Marked Catalogues & give a set to Hauck & 1 to Maxwell, 1 to Phillips & 1 file —~~

~~Send for Hauck & have understanding with him about Old wregm (now moved) in Vault now being passed by Neil & Caldwell — Also about the Marked Catalogues & about a daily report for Allengarden — about his assistants & system of working~~

Hauck gets 55 per week

We have 40 ft 1" Sponge
Rubber on Rubber Sheet,
Can cut for booth supports

~~Follow up Buchanan~~
~~on on Booth change~~
~~of outlet air -~~

In making Substitute for
Celluloid Cylinders -
Use powder & load like
Tubes are loaded in batting
dropping & use of
spreaders to distribute
Even. - Think Dally's powder
could be used - made richer in Linseed
Also spinning hot.

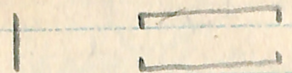
Smith make $Cu(OH)_2$ $CdOH_2$
$CdOH$ acting as a base -
Also try $NiOH_2$ + $CuOH_2$

Also Mix rubber dope with much
Sulphur to make Hard rubber -
form & Vulcanize - using Excess
Sulphur -

Also try Sulphur alone with
China clay + perhaps some
rubber -

Try very finely powdered
hard rubber, China clay &
small amount dope rubber -
& press -

Internal Revolving Mould



put in Reg Condensite Var
dry. then condense fully.
Remove & paint. & back up -

ditto Mix regular fibre &
China clay. with Varnish &
paint on side - dry to semi condense
extract & paint - 1/32 thick -

Solvent Experiments to be tried for
Scrap Celluloid for Separators —
Cabinets to get rid of Amyl Acetate

Acetone in various proportions
mixed with " "
of following
Toluol. Benzol Xylol Camphor
oil — Rosin Oil — Mirbane
Cressylic acid Phenol
Glacial Acetic Anilin oil
Dichlorobenzol.
p "
Monochlorobenzol

Try & see if $CuOH$ $MgOH$.
Combine dried stuff in [illegible]
in $NaOH$ KOH when heated
ditto in 20% $NaOH$ &
KOH. —
Quickly make Cuprates Sr Ca Ba

Being investigated
Inter Trucking Disc Park
Supplies " Archer
General Trucking — Liebman & Long
Bates & Hand Haupt & Smith —
Scrap Park

~~Filth under powder blank
presses~~

Wednesday 27 — Have weeks
supply of Copper =
Collect all the scrap at
once —

~~Smith = Make 2 packets of
$CuOH$. Mg without grafite &
try —~~

Also Make up the other Mg
proportion with grafite
& test of equal molecules [illegible]
make some 1 $CuOH$ 1½ $MgOH$

Perhaps CuOH MgOH can be moulded
damp by Hydraulic press
& used in KOH. also used
in place of Blue Vitriol in Daniel
in H_2O + some $ZnSO_4$

Crack diamonds, secure
largest pieces with good
Cutting Edges & plate to
holder & back off metal
also try large splints
to reduce costs of grinding
to shape —
Both for Clancy & Bevelling

Put man on cheapening
Ediphone records &
Master wax for less scratch
or attack by solution -
Try Cumerone resin in
Mix or Palmitate Aluminum

Get from Paullin my
Disc payroll loaned
him -

Raise Hauck to $60. week

Expmts "Hit" process
Try wax graphited, plate till
Covered silver then back up
Rapid plating Cold solution
$CuSO_4$ ice it - big circulation
& rotation when 10/1000
Nick back up
1st Wax that dont shrink
2 Asphalt (Gilsonite)
3 Plaster Paris
4 Fusible Metal
5 Rosin & Ceresine
6 Amalgam that harden
7 Balata Etc
Then Electroclean & dip
alcohol & Iodine
plate Ni 3 or 4 hours 12
amp or more

Back with above things
this makes female —
Then plate 50 amps Ni
& back with Copper for
working Mould
Make as many females
as possible & use 4 or more
wax dups
use Copper shot anodes
To List add
Molten Sulphur Shellac &
Naphthalene Shellac &
Tetrachloronaphthalene
Shellac & Dinitrobenzol
Hard Coal Tar pitch

~~Have me OK any~~
~~orders for material~~
~~for Disc plating~~
~~Material —~~

Have all scrap wire sent to
Salvage. arrange a
brick platten with Edge
around & burn the
insulation off —
Then when free. Have
Terry put in Tank
with $CuSO_4$ & free acid
& dissolve off the CuO
& then Clark can
ship bright wire to
Kasakove —
This will be a continuous
process for Salvaging
all our scrap wire —

~~Try some of our~~
~~Copper plating sol~~
~~with Ni faced discards~~
~~to reduce the Ni~~
~~possibly~~

Go up & see Sanborn Moore
Washing Machine & find
if Reaming Machine is
in use -

~~Put Payne on small~~
~~Audion & A4 in A6 Can~~
~~& hand lacing~~

~~Nicolai Why do you~~
~~waste Money at sand pit~~
~~Why not open pit as~~
~~agreed -~~

~~Listen to Bud & Fair of~~
~~the new direct process~~
~~records Caldwell is~~
~~testing -~~

~~See if Cu slag can be~~
~~used -~~

~~How many shifts does~~
~~grinders run~~

~~Want 2000 amp~~
~~Switches~~

Who Countersigns my
check from Kellow

416 oz is 3 months
supply is 104 lbs year
something wrong

Cost Rubber parts A4 cell

Sideholders	17.05	per	100 pieces
Thin rubber sheet [illegible]	6.80	"	" "
Pin Sep	44 cents	"	"
Bottompiece not used			

Sides 34.10.
13 60
37 pins - 14 70
62.40 cents per Cell -

Paarsal teach Dettler How
to Make pure grafite &
Make 2 or 3 yrs supply
also send for samples all
Kinds grafite & make test
samples — See Moissans
Book - some samples —
May Cover quaks, Make tests
on big wax & Reshaving again & again

~~Warner suggests put grafite
in Nitrate Silver week
& dry & Reduce in Hydrogen~~

Follow up Master
table.

Edison & Fred Ott
~~Moore~~ try a cord at edge
of Mould so can form rings
so as to mould them - fish
line —
Could we paste paper around
ring - asbestos -

Make $1/2$ lb of
$1/2$ & $1/2$ like 1st cell
of CaOH MgOH —
test if blackens in
NaOH, KOH, LiOH
at 130° Fah.

~~Find if Mccobu does
work for S Bat
McChesney = J V Miller~~

also Where are janitor
& Disc pipe fitters are
under him —
If Carlung for blank do
& just what

~~Ask Dyckerhoff in Emergency just how quick he can get 5 ton Electrolytic or Lake Copper here~~

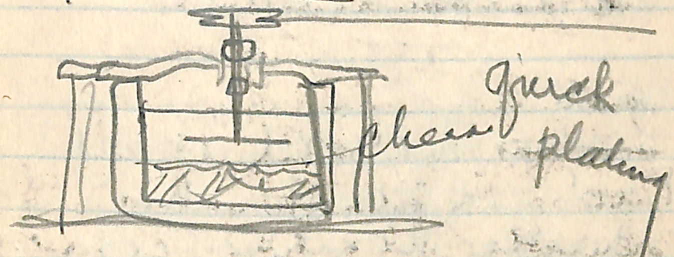
Erich new man ~~for testing with Nestor C Comes Wednesday. Gildersleeve Comes Monday following~~

~~Show Buchanan how long drops make dust + to get it down by steps~~ Blank Dept

~~Find out what tool been made for hand Lantern~~

~~Kasakow - Charcoal in Copper Melting by gas~~

see if Cu from H_2SO_4 on Cu Slag is metallic or Cu_2O - get some from anode dept.



~~Folsom = rate of men work on switches right in pulling in + time in switching over is ok~~

If we reduce we should reduce Trucking Construction Dept + Everything else.

Very thin tissue paper passes
thru 50 Linen 50 Rosin & China clay
scraper oxidized & wound
around Mandril for Amberola
Cylinders - w
Elec Ela thin dip celluloid

~~Pres~~ Maxwell about
Each job for get from his
daily Monthly reports
Sales & Stock on hand
or we get it direct

---

at Ft = paint with rubber
part of glass to see if
sol Creeps -

---

get list 100 tunes ?
selected from
Hayes

Storage Bat has 8000 lb
Scrap Copper Anodes
buy for Kaaskoos -
see Edwall

The 2 men to be taught
by Neil & Caldwell are
Gildersleeve
Erich

---

go over & have some of
our stones in Sand
pit broken & see what
kind of stone if ok
Rent a Crusher if we
havent any Motor
Run

Open book for payrolls in
Each Dept & each dept subdivided
Each weeks payroll of every
plant transferred to books
Out put ascertained as near as
possible & % of payroll to
output entered —

Speak Paulin about reducing
his office force —

See how Girl bookkeeper is
functioning & just what
she does & what extra
help she uses

Each Month in plating Dept
note Cost of supplies
& money cost of work
done by Outsiders —

Moore why not set up a
properly adjusted battery
test all our old elems
in & throw out bad ones
& stop these constant
adjustments —

Why maintain the shop
across road from 24

Arrange with Buchanan
for the 20 more presses &
Move Milnes etc some where
Else —

See progress Gall is making

Let Ingrand go

Find work for Phillips

Why Machine shop in
Music Room —

Negro making Resinate Lead
be taught make solder

Kazakov measure oil
Consumption –

Avery Terry on disc suspension

Chaney Turn 300
daily now –

On way up to 1725
Cunningham look
out slips of Can
stock at 1525 1625
1725 – put these in
Water with little
H_2SO_4 in 1 week
1525 muddy with Ferro
1625 + 1725 Clear

Thus on Nov 2/20
think if 1525 had been
held at that temp for
½ to 1 Hour I
would have been
OK – it dont strip
on breaks however
simply more porous

See Folsom report in
pocket about Nickel so men
know when to take out + time
of hour plating
Also about numbering
Coons –

Get up Daily Report Cards for
Clancy

working
^ Moulds recd from Plating Dept.

Females Recd from "
Females sent "

Working Moulds on hand unturned
" " Turned this day tested

Totals " On hand never assembled
" " Assembled in pairs
" " Disassembled, & rejected today
" " " & not rejected -

New Moulds polished Today
Old " " "

Buttons soldered on today

Total Men on Polishing
" " Hours

Men on Lathes — Hours ___
Men on face plating — " ___
Men assembling in Moulds — " ___
" Disassembling Moulds — " ___

Here add other
Operation Men & hours
but separate Slips
so men Send them in -
Then
Number of moulds test printed

Try Zn Cu Ends McChesney
by 2 parts dilute H_2SO_4
forms Sulfate Zinc & frees Cu
(why are they made)
JVM could make H.

~~Park will find in Genl Bus~~
~~Directory all Toy concerns~~
~~& send through Copy showing~~
~~shapes & ask for bids -~~

~~Get payroll Engineering Dept – also of old Service + now – Think I have old service payroll in box –~~

Whats Langs pay

Possibly dents are Current off + reversal The Cu acting as anode & giving gas –

~~See test rating of 2nd Lot of new process records made by Caldwell –~~

Take up Matter of new Tin holder boxes + Storage Vault for Wkg Masters –
Important

Sample
Press Circuit
Discarded

Nov 3/20

				Repair
Buckles				53
Rough plating	7			
Series Dents	18			
Dent	1			35
Bad bushing				8
Bad Repair	1			
" Plug				1
" Label				1
Rough Surface	5			
Rough + Crackly	17			
Rough	7			
Pitted	4			
Doubtful,	2			
Low bushing				7
Ecc				14
Worn	1			4
Low spot				
Moisture	1			
High bushing				2
Tremble	1			
RUN FINISHED	65		213	125
To stock to be Remated			154	Fixed

Sample Press discards

Bruise	2
Series of dents	13
Buckle	1
Rough plating	8
Pitted	5
	29

Total $\frac{65}{29}$ = 94
213
307

Thayer Terry daily
product finished
+ ready to ship -

~~Are there Clocks in 22A+B+24~~
~~in plain sight.~~

Mix reducing iron chips
like used in aniline
reduction with the Cu OH-Mg
battery - Coppered

~~Have Reg Disc phono adjusted~~
~~for my garage phono +~~
~~keep McMullen garage~~
~~+ Dallys phone speeds~~
~~+ in order reg~~

~~Get work for Phillip~~

~~Collect payroll + where~~
~~abouts of all Electrical~~
~~men all plants rate~~
~~+ Earnings for LeBlanc~~

In pulling off moulds because
no more wanted + saving those
not run more than 250 prints
test these prints + reject poor
ones before accepting for stock

If $NiSO_4$ $CuSO_4$ $FeSO_4$
Crystals heated to proper
point Fe_2O CuO is result
while $NiSO_4$ not decomposed
This could be used to
Separate $NiSO_4$ from Mother
liquor after Evap to dry +
igniting

Ferric Sulphate dissolves
Nickel -

Mix of $NiSO_4$ + $CuSO_4$
Ni can be precip by
Alkali as basic sulfate
or Alkaline sulfates -

Ronald B Smith, best
question yet —
place him after 6th Nov
Lives East Orange

~~Get payroll of Diamond~~
~~point grinding —~~

~~Payroll after that for~~
~~assembling + Reproducers~~

~~Why cant we polish~~
~~2 diamonds with~~
~~2 heads on 1 lap~~
~~is there room —~~

~~Tell Simpson Models~~
~~should be made of~~
~~very hard wood~~
~~to operate~~

~~Charles says we are making~~
~~repair parts for every model we~~
~~ever made + ask if some can't~~
~~be cut out~~

~~Fagan — Inspect soft~~
~~ends iron pockets —~~
~~+ to consult Monahan~~
~~+ Establish good~~
~~Inspection —~~

~~Karacooz legs gas~~
~~+ wind + longer lines~~
~~so no melting at~~
~~top —~~

Pick iron out
old Copper SB anodes

~~Kasakoon~~
~~Why so many straps~~
~~in storeroom~~

~~What is 4 bbls. oil~~
~~used for in your~~
~~stock room~~

~~What is the ingots~~
~~look like lead for~~

~~Get your old stub~~
~~Copper anodes ready~~
~~for selling + the stubs~~
~~that have Nickel in -~~

~~Where are old Solid~~
~~Ni anodes -~~
~~+ What amount~~
~~Stubs + unused~~

~~What was Cu plates~~
~~18 x 20 with holes in~~
~~used for~~

~~What is 4 Valves~~
~~used for~~

Cut off bonus everywhere

Consolidate forms
wherever possible
keep the best -

~~Bradshaw in Storage~~
~~Battery: Transfer~~
~~Night lineman to day~~
~~+ put new man~~
~~with Day man~~
~~let him read all~~
~~previous Reports~~

~~Lang - as Inspector ->~~
~~get Cycles (average) +~~
~~passenger Autos —~~
~~After that enter Trucking~~
~~Shows works + Extra~~
~~useless people,~~

~~Find out Mfrs of Conveying~~
~~Mac, who did Macy~~
~~+ get Catalogues of~~
~~all Concerns for~~
~~Conveying Drums of~~
~~powder using Steel~~
~~Soda shipping Drums~~

~~Expmt Revarnish Disc~~
~~Records + Salvaging~~
~~Daily - [illegible] Sand~~
~~paper or Emery~~
~~paper surfaces~~
~~use Soda etc -~~
~~Return Records ditto~~

Try Saving Cracked
blank by repressing

Put Draughtsman
on my Varnishing
Machine -

Put Batteries in factory
only assemble + make
such parts necessary
Cut of office, only blotter
+ Bachelder & assistant
shut off NY office -

Stevens payroll -

Repair part Dept
Blotter Cost + add
100% profit -

Payroll Returned
Repairs - Organize

~~Nicolai~~

~~Payroll, Motor Mfg~~
~~Dept.~~

Durand Payroll—

~~Folsom says Ordway is a dependable man but is unworldly & too much influenced by what others think & say. Thinks would be OK in position where there would not be so many against him~~
~~Ordway is man wages in dispute | 30 & wants 35 for 5½ days. Jones & us —~~

~~2 Reports from Higgins in my pocket — See him & get Explanations — Wear, dents Etc —~~

Maxwell-Langer Scheme for Adv'tg in Cities; Tone tests with Artist & Lecturer with small Lantern, Private Houses but mostly in Clubs & where many social affairs take place all given by private parties
Take N.Y. — Keep 3 groups going
a Piano & Singer to show interpretation

~~Go over & see Hayes about New Recorder, make Suggestions~~

~~When 20 masters are reported on Cards put in does this mean 20 new masters put in or the same 20 put in again to make formulas~~

Primary batty. bye products
No 3
Copper slag - all Copper
Coated oxide dissolves out & off
in weak / H_2SO_4. Can use
in Brass foundry

Specimen No 4
750 lbs month

	Moisture	12.30%
	acid insol	0.35
	Zinc	5.23%
wet basis	Cu	60.46
	Fe	0.15
	Undetermined by differ	21.51

Undetermined is Oxygen. Organic matter & probably water soluble salts -

Sample No 5 marked
Zinc & Oxide sweepings
Shot 425 grams
fines 930 "

acid insol.	5.13%
ZnO	8.9
Metalic Zinc	56.79

Copper	13.30
Fe	0.66
Undetermined by difference	15.18

Insol, Coal dust, Sand dust Etc
Undetermined possibly Combined H_2O
CO_2 Oxy water & of salts
12000 lbs month

Specimen No 6

Copper Mud — 4000 lbs month,

Moisture.	22.94%
Insol	0.47
Zn	8.42
Cu	45.6
Fe	0.95
Undetermined, by dif-	22.16

Undetermined consists of Oxy etc

Sample No 7 —

1/4" round Cu punchings
700 lbs month
99.99 Cu

Sample No 8

2500 lbs month
Zinc with Copper bar inserts find out why made.

Cu	41.21%
Zn	58.79

Sample No 9 5000 lbs month

Marked Zinc mud

Shot	105 grams
fine	1595 "

Insol	0.71 %
ZnO	8.94
Zn Metal	58.52
Cu	12.10
Fe	0.44
Undetermined by dif	19.29

Pbly O, Moisture Sol salts
Will determine Hg Later

Sample 10
Zinc Dross 20000 lbs
Monthly

ZnO	11.66
Zinc Metal	78.46
~~Ct~~	
Cu	0.18
Fe	0.29

Hg be given later
undetermined 9.00

May have magnesium in undetermined

~~See Tarry & have brick place made to burn insulation of wire off – then pickle to get Blue Vit & send Cu to Kasakoos or McCheo for burning~~

Ask Jacobus for names for the 4 jobs –

Nov 8/1920

~~Ten tests 1000 Each covering 10 days of % OK prints from Bevelled & not bevelled blanks show~~

~~Bevelled~~	~~**Not** Bevelled~~
~~87.6% OK~~	~~93.3% OK~~

~~We are fixing Varnish racks & will abandon bevelling –~~

---

got 1500 Varrax – 150 fixed & Benny promises 50 per day

Nov 8 1920

~~Hoffman & Paullin agree on laying off men for a week to allow Moulds to catch up Then put it up to me –~~

~~Put Al Field now with Folsom as night man in Blank & Bradshaw in 24 bldg –~~

Nov 8

Solder in stock

518 lbs	Melting Point	309°	Fahr
123 "	Test Each	300	"
227 "	& see if Lott can	280	"
392 "		260	"
61 "	use any for ½ & ½	240	"
274 "	& disc button solder	220	"
1263 "		209	"

D — d doubtful

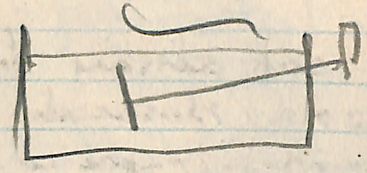
Utilize

~~Send to [illegible] or [illegible] Park & get more German silver punch strips so I can Experiment on getting Nickel out – I have a piece in Vest pocket –~~

~~Buchanan / get the 27 test booths ready & 7 booths for Clancy girls look [illegible] up & see if necessary~~

Investigate Balley
Stock rooms, organize
Assembly tables &
trucks (A & B – A4G
& B —
other for lesser size

~~We use in battery bort for dressing~~
~~Emery Wheels in Battery Co~~
~~also in Dis. for other things~~
~~get Costs— Then process~~
~~Carbonado tools~~ —



put on 276 amp in
6 Hours. -4. amp 1st hour—
5 Hours 55 amp—
It put on .040—
Its somewhat Warty

Saw at Battery Co
a scrap metal baler
why not one at
phono works

Press nearly dehydrated
$CuSO_4$ & burn— see if it
gives uncracked plate
of CuO—

LiOH is weak alkali there
may be some Elements
whose Ox or Hydrox is ~~in~~
insoluble in LiOH that
are sol in K & NaOH,
& thus give a battery.

See if Crystalized CuOH sol
in LiOH,

Ferrites very stable in
thin Layers, Ferrite Barium
Can be oxidized without
decompn, (Mg Ferrite try)
for battery —

Using 4 stage Audion +
Rubber sponge see how
for jars can be eliminated

Manganese peroxide form
Compounds with Ca Ba
Sr + perhaps Mg. using
grafite might do for Lalandes
+ alkali

Vanadates Ca Sr Ba Mg
insol alkalis - probably act
as depolarizer using
grafite for Lelandes

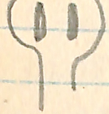
Make some white very
porous Ni OH_2 by rolls +
drying in rotating
Cylinders for Ford
starter

Mesothorium under
reproducer of phono

to see in darkish room
to start it right—

Osmosis increases with Temp
try EMG—

May 7 asked Hayes get a
~~two~~ song duet from Wedding
bells. May 10 asked about
Hymns


EMG pens self adjusting

Cu Washers on sides of
Mandrel of EMG is better
than platinum —
try many metals,
Continuous Current also
very good, doubles Volume
seems to want a depolarizer

Patent the CuOH, Mg - but before patent try Sr Ba Li Ca + other metal alkaline Combing for battery - Now being tried

Ask Hanley if he dont work some porous $NiOH_2$ its porous no matter what pressure - Rolls + Drum Dryer - Nov 25 1920

Hayes. How far ahead have you Supplements also why not get them way ahead allowing holding back a certain per cent

See if Benny has finished Master room -

How Archer get along with Supply Dist -

Moore about Sanborns Reaming + Washing Machine -

When will Warner be ready for plating - ask Charles that he should Cut down diamond plant to around 500 daily + that I shall not want a single man he has, only girls + my present Toolmaker that we can make 400 + rapidly increase to 1000 - with 1/5 the Expense for Diamonds + Labor + keep it secret.

See LeBlanc + arrange for him to take charge also inventories all stock rooms for Elec Shiff + arrange he to notified

of any stuff—out + arrange
with Mambert for joint
bookkeeper for Talmadge
+ Leblanc

Give D Ellis good talking too
he hasnt wked on wax
plating—

See about artificial
Celluloid—get him
Mandrels to form on
+ Lap + print—

Doughtery Lithia process.
Brush 50 fresh + percolate
lime water then hot,
also reg stirring way
with minimum Lime—

Find out from Dykeman
when our Lithia Contract
out—

Write Mallory to ask
Swazy if he could get
out 5 or 10 tons of
picked ~~clean~~ but weathered
Spodumene + ship to
us in bags Want for
Expmtg—also about a
Ton of Earth Containg
fine splints just as it
Comes—

Start new chemist on
Enamel for pots to stop oxdtn
get Harts results—

Gross received from Jobbers 69.58
allowance 59.10
after 15% 56 09
Taxes 42 18
Selling Expenses
Interest Lab etc 41 52
Talent, Masters, Royalty, Pkg. 33.11
Loss 21 82 cents per record

Palmitic made by reacting on
Oleaic by KOH at high temp—

Palmitic acid can be made from Myrtle wax with only a little Lauric. Can be made from Palm Oil -
Na Stearate may be separated from Na Palmitate by fractional Crystn from hot Alcohol -

Put on a man working Palmitic a Ediphone Cylinder

For soft Piano, Livitsky best, according to Aldrich - Gabrolewitch next.

Get some flake Sol & Eat off Copper stick to Label
Clancy has 60 discs -

Investigate present Volt.
also pilot baths for amp + see if we need 1/2 doz ampM

Devise the new Carrying box 3 in each - Bristol board - cheap -

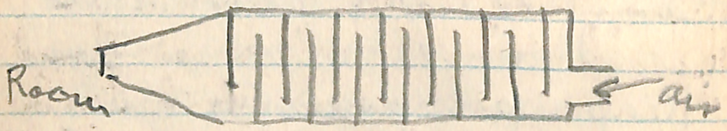
Find out how many rugged Carrying boxes were made

Keep up expments on cleaning dark working Moulds Chemically
Oleum. hot ZnCl, Na Amalgam
Fused NaOH, dip - Metallic Sodium, Hypochlorite KCy
$HgNO_3$ $AgNO_3$ boiling Castor Oil followed by NaOH. Hot Conc 66 H_2SO_4 Molten glacial phos
Conc Arsenic acid - Oxalic acid, Chromic
Anoding, $CuSO_4$ + acid.

Take up use Rubber corks in shipping Storage battery Cells & finish pkg Expmts

Follow up foreign phono pkg -

New conditioner should be
put in old Celluloid Dep place
& got ready for grafting
Masters +



Cloths wet glycerine, or soaked
Castor Oil & glycerine or Rosin
Made in frames removeable
put in box & squeeze up by a
screw like a filter press —
for Conditioning — or plain cloth
& force their air.

For sticking on discs to be
turned
100cc Al 100 Rosin 25cc @ 30 cc
Sesame,
This comes off in hot $NaOH$
in 30 minutes probably less
Water Sol —

Painting Steel also Cast iron
to Enamel & stop Oxidation
Litharge & Silicate of Soda Good
Sodium Silicate Fair

Lead glass, Litharge $NaOH$. & Na Silicate
The glass PbO & $NaOH$. mixed & fused
Repowdered & mixed with water
glass. if its fusing point could
be lowered it would be good
forming an enamel.

See if Rubber people can make
rubber tubing like Celluloid, we
Could Coat & print.

Also greased Mandril & hat
glue Coat Celluloid by dip
& print,

Oct 2nd we started polishing working
Moulds females to get
rid dents

Estimates
New inspection arrangement

1 girl allowed 8 min to go over record – 480 min capacity 60 per girl –
300 test print records requires 5 girls 1 girl with 5 machines to go the once over will do 350
If 50% is doubtful – then 50% will go to. Neil + C or 2 others or 87 to each – this is more than 2 can do so 3 men will be required 58 to a man as we improve this Extra man can be removed

With Operating moulds on 92 presses Every 120 mould tested 2208 moulds
Operating it will require 1100 records tested daily at 60 per girl
19 girls This with 8 people for new moulds

requires 27 booths for 92 press

Eye inspection of records
600 records per day per girl
480 min; principally bad blanks, puff outs, cracks, discolored
15 girls 90 000 records

3 first lumpers + 1 final

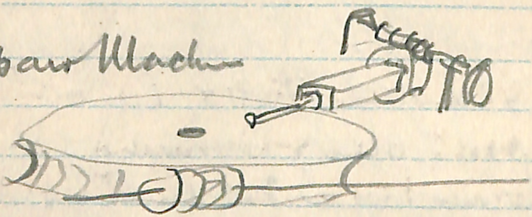
Clancy 350 Central inspection
Moved to 3rd floor, Eye & Micro before turning & passed for turning 5 men 6 repairs less when we improve

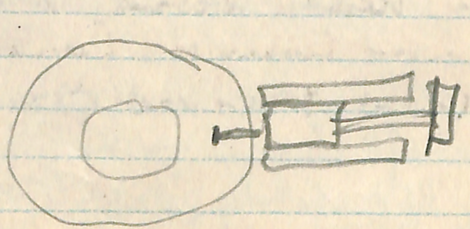
Press active mould repairers one shift days & substitute other Moulds! Try 8 Repairers at 1st

Vacancy ~~[illegible]~~	12
Operating Moulds	19
Repair	8
Record Exp Umpire	18
Test points	9

See about removing springs from edge of moulds, Experiment 1317

Repair Mach



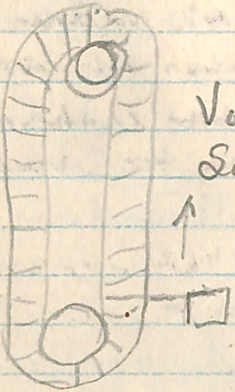


When ours ok patent Ford starter battery in England, Germany France Italy Sweden Norway

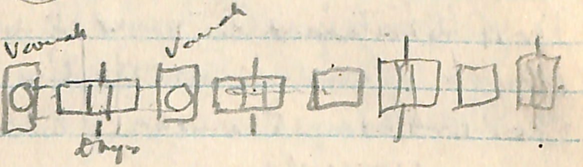
Vocal Books 1000 threads -

Make some white powder $Ni(OH)_2$ by rolls & rotary dry Cylinders, Excess NaOH, for Hanley

New scheme Moored balloon Windmill Screw & Dynamo, Wireless to Control - Run up to get heavy wind Helium Mooring lines the Conductors pout Current Make Hydrogen



Varnishing Machine
Same as Rubber
backing Varnished



Full auto.

When ready want a full & Complete inventory at Each place of Everything Spare, Obsolete, & not Current running stuff 1 Man to run this & nothing used without his O.K. all Cos send Memo when anything abandoned & where stored)

Gilsonite acted on by Peachy SO_2 + HS. makes it not meltable but as flows some of the other asphalts Even better, Try for Amberola

Inspector for McChesney & E Chem Wks –

Try plating a reject very black Mould with Cu + see what it does, ~~Also~~ wipe vigorously

Pass H over a piece of black Nuface reject & see if Condensite dont Carbonize & be easily wiped off

Run very hot fine blue flame over face of black Record & burn it & wipe Acetylene possibly

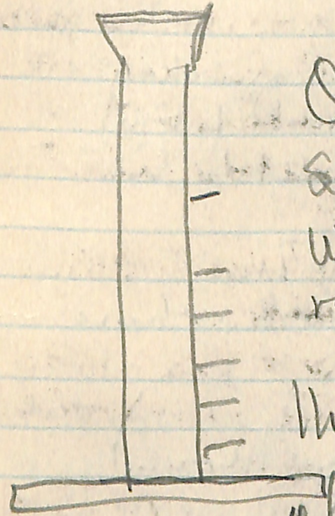
1 Man whose sole business
is charge of & knows where
Every Mould is, instantly
Knows state of Repairs
Also Blank Moulds -

Why not have alternates
in new Records - 2 Catalogue
Numbers, X with X1 & X
with X2 Matched stop tie
up moulds -
Do matchings go to baths
simultaneously.
Cant be more than 15%
out, stop tie up moulds

Get inventory of Moulds
in all conditions -

See Losey Hayes &
Werner - decide things

Arrange for Talmadge & soon
LeBlanc daily report to
Allengarten -
Clancy
Handles 4 depts -
Moulds -



Oil -
Separation
When 1st
reaches bottom
Then - Reseparation
of Each lot -

~~Moore = How about a clinch~~
~~ledge for Ni on thin moulds~~
~~why not stop of 1 face~~

~~Why not remove moulds~~
~~from holders that need~~
~~Extensive repairs, –~~

See how can quickly
Repair Moulds from
presses so not to tie
them up

~~Get from Hauck where~~
~~moulds are~~

~~Get Paullins Mould~~
~~inventory –~~

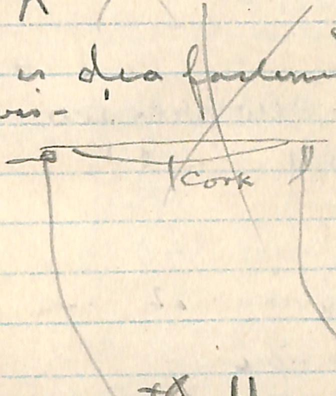
~~Moore why not put in~~
~~30 Mould holders to~~
~~Ni plate so as to hurry~~

Does Hayes put Wax on edge
Diaphm –

Try paper – Celluloid Collodin
Fred Ott has a book full

~~Use Knife Edge + wax~~
~~wax~~

~~How is dia fastened (i.e)~~
~~leaving –~~



~~Take up with Hauck +~~
~~Paullin about scraping~~
~~all moulds back of a~~
~~certain date, only using~~
~~direct process it dont~~
~~pay to test as we only~~
~~get 2½% + have to~~
~~assemble + print –~~
~~then clean them out~~

72 presses	1728
20% Extra	345
125 Clancy	125
75 in shop	75
	2273

Required —

20 Extra new presses

Req	480
	96
20% 8% Clancy	40
shop — 5%	22
	638

Total	2273
	638
	2911

Have 3600 —

Nov 30 1920

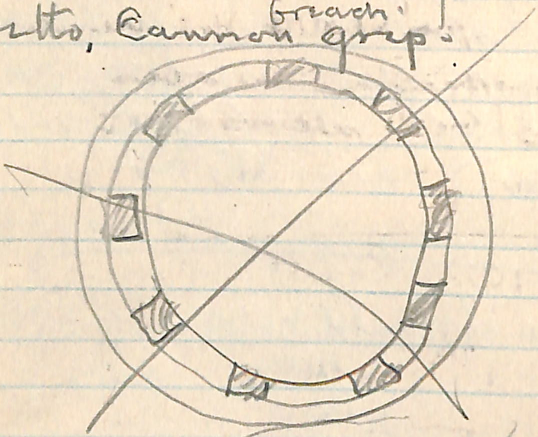
Hoffman taking 1000 Reject Record & not picking out poor prints & those that was unlikely to work obtained 40% OK Records both

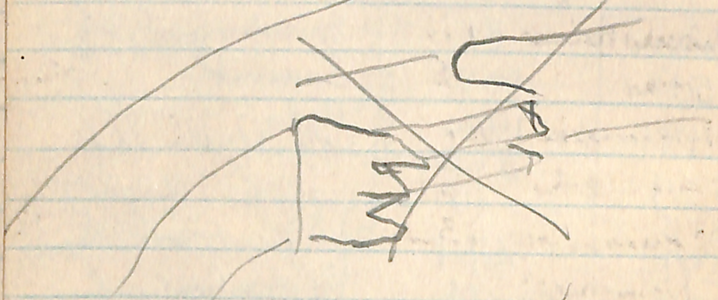
sides — after Edging [illegible] 2 Coats req only —
This shows when we have plenty of presses we can regenerate 40% of our discard records —

Position of Mould holders given by Hauck

29th	30th	
63	31	machineshop
151	105	assemble
44	142	Repair - (mould)
574	566	Test (Mould)
115	10	stock (Mould)
241	271	phono works Repair
20	4	Press Control
405	396	Stores Thin
168	102	Sample Press
1798	1834	Press
3609	3461	

Make a Brass Mould holder
" Cast iron Ni plated -
Ditto, Cannon breach grip -





See Simpson ~~on~~ Automatic

Why cant WE assemble in Babsons place —

Lithia Contract Dec 1918
out Dec 1923 3 more years

Best CuOH MgOH 4.5 nickel
rolling grafite - 5.2 grams
1700 Ma - about .8
800 " " 1.10 -

30th July 1920. Paullin Reptd

Assembly Dept	334
Presses	1354
Test Dept	748
Mould Repair	111
Stores	32
Phono wks	827
Mould stock	64
Machine shop	132
Inspectn Dept without Rings	24
	3647

These are Mould Holders

Start a Formula book
for Diso plating giving
in detail full reasons
for Everything. This to
be kept in safe.

Other Depts to follow

Where small Ni & Considerable
Copper —
Think can used saturated
Sol $NiSO_4$ & wash mixed Cry
of Ni & $CuSO_4$ (fine) + dissolve
out most of CuO until
its 50 50 — then Evap down
& Crystalyze out 25% $CuSO_4$
Cool & wash mixed Cry
again & so on ad infinitum

FINE

When we have $NiSO_4$
with Considerable Copper
in it & the $NiSO_4$ is to be
used to make NiOH.

Heat the solution add soda
to throw out CuOH NiOH.
then the KuOH will alone
stay in sol finally
all the CuOH can be
filtered off — leaving
$NiSO_4$ & Na_2SO_4 —
The $NaSO_4$ is no harm
on precipitating to
$Ni(OH)_2$ —

Good — Cuprous Cl.
Add H_2SO_4 till HCl
displaced — filter Evap
down & Crystalyze out
$CuSO_4$ or Evap ~~to~~ Dry &
dissolve $CuSO_4$ HCl gone or

Neutralize the free HCl with
$NaOH$! [illegible] to form $NaCl$.
35° cold 39 boiling
Can easily Crystallize the
$CuSO_4$ from boiling -

Process Extract $NiSO_4$
from strong $CuSO_4$
Solutions +

Neutralize with lime
the Copper — Stir warm
then dissolve out the
$NiSO_4$ — by filter pressing
& Washing
Then add H_2SO_4
stirring & wash out
the $CuSO_4$ with filter
press - any leach
of Gypsum of remnants
$CuSO_4$ by Soda Carbonate

Get from Walter Miller
2 or 3 discs that are
bad —
Expmt with butler
dishes smooth &
hold in Reg acid till
get it OK — get formula
& Make for tests -

~~Follow up Constable
until its finally
decided we cant use
rejected tube stock
stuff for the record
partitions —~~

~~Consider Mechanical
Engr in Personnel for
Chg of Blank Dept,~~

Vacuum Cleaner for
blanks - Varnished
blanks & for
Moulds

Fred Ott - Diaphragm for
Hayes Jap paper Shellac
tin foil & hydraulic press
Rubber - built up -
Ditto Condensite -
ditto Cork - Aluminum
Cup Center, or Condensite
Center -

Foreman Questionnaire
like Clerical -

See How Clancy puts
Shellac on Label

Hanley in place of Rubber
in Form Plates Can use
3 or 4 sheets asbestos
on a side of Chapper -

Master Wax -
Considerable Palmitate Al
goes in - if too much goes in
it froths up -
Makes for 1st & 2nd dose
Very good looking, Cuts better
than Reg & as hard, just
shrinks free of dish itself &
flat top - PROMISING

Stearic a only considerable
Palmitate Al dont help it
its very bad & helpless
its so crystaline,

I propose to try Palmitate
Al with following Bases
Carnauba white Beeswax
Bayberry Candelilla
Paraffine. Crude Montan
Japan,

Tell Talmadge about Lab
boiler for use in heating
Lab - also of S Balt
boiler Cant be used -

Fine quality Candellena
Wax sent by
Aubrey Lawrence Peacock
Los Angeles Cal
Ask for as large
sample as can be
sent by Parcel Post
with price -
~~[illegible]~~
~~Boonton~~

Must have daily record
moulds put on press -
off for repairs on for
repairs & off for finishes
Enough records -
Very important.

Instruct inspectors when
they note anything that
foreman should have
seen to put down
shift & time so we can
use merit system

Hoffmans plan of saving
men on presses after 8
+ Latter Hanok showed
him how was 276

Records per man
Dec 7 - 55 presses he is
getting 281 per man

Dec 7 - He is repairing
269.7 Blanks per man
per day = Each Odd Press
has 2 odd presses
which should take care
of all the blanks we will
ever have —

Try a Cast iron Mould
holder - Can it be made
Thicker

Dec 7 1920
Warner says Dec 10 can plate
400 stones day
Dec 20 plate 800
Dec 15 can rough grind 200
daily Jany 1 Rough ground
800 daily Dec 24
Can have the 25 machine from Phono
wks running in their present
Condition making 400 to 450
stones day but Expect 500 to 600
with new attachment 800 daily

Addition of very small amounts
of Alkali to a suspension of Clay in
Water results in suspension of
Clay in the water While pyrites
Mica free Silica & other impurities
settle to bottom.

Get some Sterine

~~Seperate by Solvent's
2 substances from
Beeswax -~~

~~See if they have at S L
Wax dept a small
Outfit for Casting
a single disc -
Go down & see or
send Fred Ott -~~

Plan out building
for 200 Rapid baths
only put in 100 —

Dont forget the light
Carrying box –

What about the Rugged
Carrying boxes how
many was made

~~McM how did the Baby
fine hair tooth brush
work.~~

~~Give the Chemist Extra
work to do,~~ (Bedford)

get fm Medcroft
Bradshaws reports
on Mill - Rut
remarks off & send
to Ohnevert at Mambuls
Report –

Hits in Reg room of
17 Records —
1st + 2nd Edition

Send 60% at 1st
Save females until
orders sufficient
for 2nd Edition
+ save possibly
for 3rd Edition

find out if this is
possible

Consider a machine
using some considerable
force to run thru the
Varnish blank & break
off everything that is
loose or liable to get
on Moulds

~~Put 96 A4 Cells in Redfords
place —~~

~~Write out duties
of House Electrician
& Helper of Disc
plant —~~

~~Fix LeBlanc Dept~~

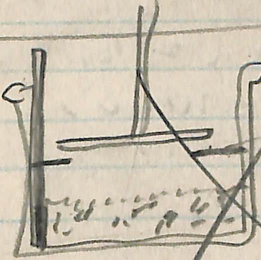
Arrange for quick
label for New Wet
process —

Can get Crock from
Robinson Clay products
Co NY —
14½ dia 9½ deep
$24.96 doz Think OK
Fred wanted 15 doz 10" [illegible]
ask Benny how many
he could get —
Robinson Co want
10 days & Can deliver
all we want.

~~get track of plating
Dynamo 12 Volts
10000 amp —~~

~~Try plating Copper from
~~Sol~~ $CuSO_4$ with
a little ammonia to
dissolve oxide~~
(on wax)

~~Doughtery test our
grafite — suspect
clay or mica —~~



~~Fred Ott — Archer try
this —~~

Kellow

~~Chg Capital acct~~
~~Chg Terry to this~~
~~Then give me operating~~
~~+ Cost production accts~~
~~at Evy week?~~

DEc 13 Grafite we
are now using contains
4.28% ash
0.07 Iron -
Doughtery

The 120 000 lbs of reduced
Cu Nick now at SB
Contains 13000 lbs
Copper & 11290 lbs
Nickel - in form of
flake,

~~Tell Smith to always~~
~~Start one end so can~~
~~increase & put 2 on 1 floor~~

~~Try wax record strips~~
~~grafited — then~~
~~silver it over + plate~~
~~ditto silver it over~~
~~1st then grafitize~~
~~+ plate —~~ GOOD
Flor Hts -

~~We need a daily report~~
~~of just which records~~
~~are discharged for~~

Weak points in our Mould holders —

1 am 12/12/20

Assembly	245
" to be inspected	36
Sample Presses	50
Testing + Repair Samples	552 ?
" " Running Molds	230
In Press room	1762
In Stock Room	241
	3116

Work up idea of putting Varnishing Dept up Charge of Mayer

+ Blank in 24 Co Manchester +

1 Bradshaw + Field Blank dept night + day

+ other Changes

Note Fire chief sees nothing cuts fuse on fire door off & even if on was obstructed by other things —

Dec 18/21

~~Dally Make some Experiments on using Water Solution of Rosin (NaOH) in our regular mix + drying in our Vacuum Dryer. Wherever it is at same temp we use in our big Vac Dryer but longer time to get water out. Think we can after mixing add weak H_2SO_4 to liberate Rosin + form non hygroscopic Na_2SO_4. Have described it to Dally perhaps can precipitate the Rosin out + mix as an Emulsion~~

~~Mess~~ Salvage has gauges tips dies Drills + Supplies generally – Get in Stock Room

Very good Experiments

Hot process – 14½ Crock 9" deep. 50 Rev of disc (I think) – Vertical. Hot strong $CuSO_4$ + acid like Reg bath, Arthur has data in his book –

Diaphm of Rubber between Disc + 14½ bottom, that Cu anode –

No 40 8" hole face of anode 3/8" from face of disc Very bad trees on disc Center out 8" dia turned up 16/1000 – had 100 amp 6 hours – full holes which show as dents on Nickel side –

Density Evidently too high in Center

OOE

No 41 9¼ hole -
Everything else the
same as 40 - OK
no holes turns up
52/1000, & OK

No 42 9¼ hole
but The anode is only
2" from Disc
Turned to 34/1000 but it
dont finish, probably
finish at 25/1000
no dents in Nickel
face -

No 41 is best,

Anode should not be
less than 3⅛ away
better probably would
be 3¼ =

These Expmts had baffle
across face of the
disc ½ away to
make whirls -
very nice edge on 41
without Rubber Dia
The Edge is all trees
& impracticable -
Think 75 amp run
to 800 amp hours
be OK

Think over starting a
School of Mould Repairing
& getting up of Special
Machines until we have
some highly trained men & get
rid of the dead blacksmiths

~~Lay off Goffs draftsman~~
~~See what 2nd floor draftsman~~
~~doing - Lay off the man~~
~~Exptg on friction plans~~
~~Close up Cox lab Except~~
~~man who has dip process~~
~~in chge —~~

~~See what Nicolas doing~~
~~about dip process building~~
~~How about laying off~~
~~Motor Edison Mfg~~
~~Handy lay off 1 man~~
~~+ 1 tester if possible~~

Look up Buchanans
suggestion about
saving 500 day of
Clean on process

Head stix on Label & Causes
hundreds of discards
Labelman was to fix it

See if Cant get a Stamp
to repair each -

Candellaria can be melted &
filtered, or melted in deep
taper or split Can say 16" deep
1 to 16" wide - put in soaking
pit requiring 6 hours to set,
breaking off bottom to remove
impurities Same with
Ceresin L Than mix &
Cast for Matter wax
try it —

Get a Younger & Better
Fire Chief — Roughneck
here now & low type —
He is no good as Inspection
Report show

Put up a payroll board whole
plant - put in Charles Room
1" cards - Can get 3000 on the
2 sides -

Make 2 masters, 100 Candelilla
35 White Ceresin -
Another pair 30 Ceresin
" 20 "
" Plain Candelilla
Dup 35 30 & 20 with
142 MP Paraffin -

The best for surface & moulding
then record Piano & some
tracking. Grafite & plate -

Na_2SiO_3 Water glass Sol of
36 Baume added gradually
with continual stirring
to 0.6 to 1% ZnCl in 10 times
it weight of water at 1st a
gelatinous Mass separates out
which during progress of
the reaction is converted into
a viscous strongly adhesive
Mass

Find place for Traffic board
in 24 & plating

Go to SL & see about moving
Master Wax Experimental Wax up
to Cox's place -

See Simpson if Cant use old
tables after cleaning for hits

See Benny how many
Centrifugal pumps we
have provide for hits
& Wash water at SBat

Boards for pay rolls all
industries in Library Corrected
daily - Dup for SB for
Faqui - of SB only

~~Give Fagan all names to be laid off~~

Monahan & I must oversee the changes,

Take up with Smith the trucks to be changed for assembling

Monahan - reorganize part plating -
Keep M8 moving -

Boards in shipping room showing tunes on hand min & Maximum & order clerk to keep up.

The same thing at Central M24 -

Payroll board,

~~Establish daily reports for Clancy~~

Reports for Central showing Prints made from each Reg stock mould to stop stocking beyond the Schedule

Get all our Dedaling stuff & the new machine newly designed but not finished & Start Payne at it when he finishes Battery

Get some Celluloid strips like Durand uses, that can rub out -

~~N.E.H. Caldwell = Drop test Calliper test~~

~~Since ve gallo time record~~
~~warmed up in water in 5~~
~~min & was not in ½ hour~~
~~there must have been two~~
~~Rosin solutions — Hereafter~~
~~have checks all way~~
~~thrown on the d—d barbarians~~

Number of tunes in our
Catalogue Jany 1 1921 —

50 000	Series	585	Records	1170	Tunes
80 000	"	373	"	746	"
82 000	"	118		207	"
82 500	"	46		72	
83 000	"	62		94	
84 000		1		1	
		1264		2448	

Inspectors

Manchester	Day	24 bldg
Rigby	Night	"
Field	Day	Powder Blk
Borden	night	"
Bradshaw Dodd learner		5 Bat
Woodfin		—
Folsom		Plating
Mayer		General Plant.

Harris, wkd on Governor for 11.30
constable

I. the Serenade
[illegible]
has a reinforced } Beautiful note in it

Rig up a Machine with compressed
air nozzle & 30 threads & feed jet ·01
about along Master wax record
to detach dirt wax chips etc

Note if dust & wax changes
stix more or less than Reg
to Candelleria

Look at the 35 Ceresin Record
under Micro & see if dust
also see if specs break off
Easier than regular

Warner to try the 35 Ceresin
also the Paraffine for
Silvering.

New Rosin Soap process
153.6 grms Rosin
76.8 NaOH cc at 20 Bé 14.3%
of NaOH.
48 cc Acetic acid 25% Sol by
Volume 2/5th less Rosin

153.6 grms Rosin
76.8 cc 20 Bé Sol. 14.3% NaOH
33.6 cc H_2SO_4 20% Sol by Volume
2/5th less Rosin

Both Re

Methods -
May supplement for illustration
Decided on time Nov 1 & started plating
shipments of Samples start Feb 2
Reg shipments start March 1st
On Sale April 20
Every supplement is made up
5 months & 19 days before it
goes on sale -

Jany Sup & Specials shipped
Feby Completed Except 1 Number, Spec of Jan
March now running on ~~[illegible]~~
presses - also Specials.

Average number ordered of
Supplement 12 175000 Specials
monthly 5 = 130000
averg 14500 Reg 26000 Hits -

5B at Payroll, Monahan &
Smith reduction Out of
Total 952 - 563 Laid off
389 Kept for 700 daily press
No change in Chem assembly or
Technical office main office -

35 parafin Cuts Rougher
than 35 Ceresin, rougher
unsmoother — Recorder
Req wire — Blubs bad
25 parafin No improvmt
so far 35 Ceresin best

50 parts Parafine
is next best to 35
Ceresin — last tracking
Couldnt hear Record
blubbing bad
probably 60 to 75
parafine would be
OK — make them

Wash water from flake
Cu & Ni Mixed gives
precipitate Settles
1/2 vol in 2 hours
The slurry works
Easily & rapidly

in filter press — in Vac
jar 1/2 inch Cake Easy
in Small hand filter
press, Easy Cake solid
87.39 water
1.6 Cu
4.24 Ni

---

see Warner
plate the turning off
Diamond tool Chancy
uses they get loose
try a natural broken
Edge get rid grinding

Try Expmts painting over
a blank with white & pouncing
to get a white surface —
perhaps a paper label
of Japanese tissue
would stick.

~~to wash Sulfate Ammon~~
~~Make a saturated sol of~~
~~Sulfate Ammonia add a little~~
~~acid H_2SO_4 - then wash~~
~~the Crystals in it -~~

~~ask Charles if piece~~
~~work was reduced in~~
~~same proportion as~~
~~wages or more,~~
~~Piece wk reduced~~
~~twice as much~~
~~by others -~~

~~About governor to~~
~~phono at springs~~
~~of room - further~~
~~away from shaft~~
~~possibly bottom~~
~~spring loose to~~
~~fly out quick~~

Dis c

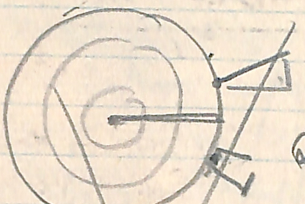
~~by sorting in Stock Room~~
~~see how many people~~
~~we save -~~

~~If we have good ahead~~
~~of moulds Cut~~
~~down number people~~
~~in plating & Clancy~~
~~to just supply 65~~
~~presses -~~

---

93 parts to a Miners
Lamp — probably more
as only 1 Fe + 1 Ni plate
shown - & it may only
include 1 Cell +

Found that 150 Mex wax &
35 Ceresin Deep when tried
again horrible - turned surface
Couldnt hear, Its in the Recorder
This is a new find & shows
rough surface on hard wax due to
Recorder OK now then bad [illegible]



~~to prevent recorder~~
~~vibrating horizontal cross~~
~~when tracking.~~

~~Also find angle~~
~~recorder should~~
~~make to get no~~
~~tracking noise & then~~
~~by platten adjustment~~
~~bring wax blank~~
~~always to right~~
~~angle for best results~~

~~Saponify Condensite Resin~~
~~& water, put in Hexa & 6/4~~
~~& varnish some blanks~~

to get rid of Alcohol

List of things to put into

- Candellera
- Spermaceti
- Rosin
- Canada Balsam ✓
- Styracin
- Condensite Resin ✓
- Kauri
- Chinese wax
- Stearin
- White Montan ✓
- Montan black ✓
- Palmitic Acid ✓
- Stearic acid ✓.
- Trichlorophenol ✓
- Phenol
- Rosolic acid
- Cade
- Gilsonite
- Camphor ✓
- Chloral hydrate ✓
- Terpin hydrate

- Castor oil ✓
- Easily Melting Dyes
- Salicylic Acid ✓
- Beta Naphthol ✓
- alpha " ✓
- phenylamine ✓
- Naphthalene ✓
- Ester gum
- Stearate Lead ✓
- Easy melting Stearates
- Anilin Oil ✓
- Ozocerite ✓
- B.S.
- Phyllorstin Hydrocarbon C.H. MP 86
- Durene MP 80
- Camphene dihydride $C_{10}H_{10}H_2$ MP 120
- Acetylene Naphthalene C H. MP 93
- Hexamethyl Benzene C H. MP 150
- Methylene Diphenylene (Flourine) C-H- MP 113

~~Find out from Maybert what system we have about returned Representations — get all the data —~~

(Continued)

phenanthrene	C-H	100
Ditolyl		120
Methyl anthracene	C-H	190
Pyrene		148
phenyl Naphthalene		101
Pyrene hexhydride		127
Distyrene		117
Retene		99
Hexyl ethyl Benzene		123
Triphenyl methane		92
phenyl anthracene		152

Make CuO by igniting CuSO4 or by precip & boiling wash dry & coat grafite - prefer & try also put in Rocket —

Greatest Atomic W
Uranium - 238

Greatest Spec G
Osmium 22.48

Fe 7.85
Mg 1.69-1.75
Al 2.71

Candelleria —
A Little Camphor cuts smoother very much tough viscous ropy Crax

Beta Naphtal - Very good small amounts Toughens Cuts soft — large amounts tough bends — no shrinkage

Chinese Wax NG - Crax

Naphthalin small amt Cuts good - no cracks More Viscous tough still more turns which - Cuts good Nap Crystalizes & grows

So far Naphthalin & B Naphtal Best — Later best of all

Jacobus Can only repair
65 per day & then has to work
overtime,
I suggested a school — will
start with Lady overseer & 6 girls
He will break in girls using
an Expert woman to teach —

~~18~~ 36 Stearic 100 Candella
Cut good - dont Crack

25 Ozocerite Crude 100 C
fair —

16 Lead stearate good Cut 100 C
25 " 100 Candellia
softer still good cut.
no shrink 36 to 100 C
still softer. Promising

16 Salicylic Acid 100 Candella
Very fine 25 NG —
10 probably better Very
promising —

Rosin Gilsonite, Kauri NG
(Condensite Resin hardens more)

Spermaceti 16 to 100 improves cut
25 to 100 good cut, Cracks when
Cut around Edge

16 Japan wax Cuts good, slight
Crack 25 to 100 too soft

Metaphosphoric Acid makes
Soda in Rosin Insol Hot
or Cold. Sulphate Soda
4.8 at 0°C .7 & 42 at 100 C

Acid Oxalate Na Cold 1.7 —
Won't go in Hot —
These for Dolly Rosin Soap blank

Candellaria - Thymol has
enormous softening power
probably only 1 or 2
to 100 - am trying it

Hart Make Naphthalene &
also Belanap 4 8 10

Jany 19/21

45000 Prints daily
660 gals Alcohol lost daily
for Blank
205 lost in Varnish
62 " other places

---

50 Candellia 3 Camphor
sticks dish NG –

Naphthalene NG

4 Thymol 50 Candellia
good – leaves dish by
prying – Promising
5 too much narrow
margin

50 C 3 Zn Stearate
pryo free Cuts fair
shrinks on top –

Trichlorophenol 3 to 50 Cand
Sticks to dish : NG

4 cc Castor oil 50 Candellia
Cuts fair prys off not
Crack – may do 6 cc too
soft –

Process for wash water recovery Ni Cu
+ for renewal Electrolyte –

Wash water to big tank paddles add soda
slight Excess – while other tank or tanks
filling – Settle 2 to 3 hours – Run to
filter press –

1 Mud acidified H_2SO_4 just enough to
bring Ni in sol with a little Cu
then add fresh Carb mud + heat ?? *
until Ni is less than 10 mg/liter

2 = add to remaining mud 70% Cu 30 Ni
acid till dissolved to get $CuSO_4$
mother liquor to go back to acidify
original mud..

How about boiling * or heating
we will be shy of $NiSO_4$ + $CuSO_4$ – get later
[illegible] from Chlorides

Candellia 25 – 2 parachlor
aniline
powerful softener ~~pr~~
but sticks to dish

25 Candellia Metatolylene Diamine
2 pts – OK good Cut
Basic
dont Crack but stix dish

25 Candellia 2 Pyrocatechin
Cuts good - stix dish some. foam some:
very soft easy Cut - 3 is sticky S S

---

25 C 2 Acetanilid - Cut Easy soft
3 bad - stix some ⑫ 2 to dish

Phenol tribromide 25 C 2 - Cut soft
fairly easy from dish - wants
less of the tribromide —

New Schedule

Special -	1500	Each
Grade 1	1000	"
2	800	40 000
3	600	30 000
4	166	66 000
5	300	150 000
6	200	120 000

6 is remaining

---

25 Candellia 2 & 4 4 best
Resorcin fair Cut no Crack
4 leaves dish fair -

25C - 2 Phenanthrene
Enormous softener sticks
dish tough sticky
3/4 - about right 1 Sticks to dish
3/4 has tendency stick dish, shade Tacky

25 C 2 orthonitroparatoluol
2 is too sticky - Stix dish -
3/4 is pretty good 1 sticky

---

25 C 2 Alphamononaphthalene
2 about right cut tends stick
to dish - will make 1/2 3/4 + 1
3/4 Cut fair tends stix dish - shade Tacky

25 C 2 Alpha Napthol - OK
leaves dish fair - surface
sticky - observe this in
all others - probably
1 to 1 1/2 be good cut fair
Alpha ~~Nap Crude~~ Cuts
ok - 2 Little Tacky
think ~~will leave~~ dish
very little tacky - Vary
proportions Promising

25 C 2 Anthracene Crude
fairly free, Cut fair. 3 ng dont dissolve
anthracene 1 1/2 pbly best —
shade tacky

---

25 C 2 Alpha Napthalamine
fair cut slight sticks dish dont
Crack. 3 is soft - little Tacky

~~Geo Gorton Machine Co~~
~~Racine Wis~~
~~Size No 1 → Label Machine~~

---

25 Candellia 3/4 Azobenzol
purified - fair Cut 1 pt
Cracked

Trichlorophenol 3
C 25 - fair -

C 25 2 ortho nitro para
phenetidin, Cuts smooth
but not deep 5 ng
Cryst out, Red free of
Easy off dish - no crax

25 C 2 Binitrotoluol
Sticks to Dish awful

~~Smith - Try $Ba(OH)_2$ & $Mg(OH)_2$~~
~~for battery - should give higher~~
~~Voltage than $Cu(OH)_2$~~
~~Tries~~
~~also make up cell &~~
~~charge $Cu(OH)_2$ Electrode~~
~~with Carbon or platinum~~
~~to get higher Voltage &~~
~~then discharge with Zn~~
~~Electrode~~

Phenanthrene 3/4 to 25 Candellia
Cut good stix dish a little
dont Crack

Acetamidine para 2 good
Cut Xtra good - 25 Candellia
not Cracked 3 parts to
sticky -

6/4 Hydrochloride - 2 to
25 Candellia Cut fair
Very hard

Inspectors

Manchester #24

Rigby nights #44

Ramsey #24

Bucklin new man with Bradshaw

Field, Borden Powder plant

Bradshaw Storage Bat

Folsom Dodd Plating

Archer fast plating

Mayer Control Boa

Woodfin Harris Inventory Boards 513

Park — Liebman } Special

Caldwell Print Testers

Egertons wash 125 gals - Crane hour
Ni wash 3 sec
7 sec Cu

---

19 Cranes 24 hours
57000-gals - 7125 cu ft
125 gals Crane hour

~~Take inventory of all Depts Steam & water pipes in fact all Stock houses, + all Elec must be signed by LeBlanc + all steam water by Talmadge + Continuous inventory~~

Ni OH - if frozen it freezes the water of the hydrox + crystals fall down to bottom of jar sol clear whereas previously cloudy May be Ni(OH)2 dont

~~See Nicolas payroll- & How many carpenters Driscol got & to reduce them see him & arrange about bookkeeping.~~